

Appl. No. 10/620,339
Amendment dated: December 8, 2004
Reply to OA of: September 8, 2004

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1(currently amended). A method for multi-layer ~~multi-layered~~ tissue culturing in vitro, comprising:

providing a porous multi-layer ~~multi-layered~~ carrier having a hollow cavity;

placing tissue blocks within said hollow cavity of said carrier;

seeding cells into said carrier; and

incubating said tissue blocks and cells within said carrier in a culture medium.

2(currently amended). ~~incubating said tissue blocks and cells within said carrier in a culture medium~~ The method according to claim 1, wherein the diameters of said tissue blocks are larger than the pore diameters of said porous multi-layer carrier.

3(original). The method according to claim 1, wherein the pore diameter of said multi-layer porous carrier ranges from 50 to 500 μm .

4(original). The method according to claim 1, wherein the diameter of said tissue blocks ranges from 500 to 1000 μm .

5(currently amended). The method according to claim 1, wherein said tissue blocks ~~can be~~ are granulated carriers attached with cells or cell aggregates.

6(currently amended). The method according to claim 1, wherein said multi-layer porous carrier is ~~preferably~~ made of bioabsorbable polymer material.

7(currently amended). The method according to claim 6, wherein said bioabsorbable polymer materials ~~can be~~ are selected from the group consisting of polyglycolic acid (PGA), polylactic acid (PLA), poly (lactic-co-glycolic) acid (PLGA), polyanhydride, polycaprolactone (PCL), polydioxanone and polyorthoester.

8(currently amended). The method according to claim 1, wherein said carrier is ~~made from combining a composite material including an~~ absorbable polymer material ~~and other materials~~.

9(currently amended). The method according to claim 8, wherein said ~~other composite material includes other materials~~ ~~can be~~ selected from the group consisting of: hydroxyapatite (HAP), tricalcium phosphate (TCP), tetracalcium phosphate (TTCP), dicalcium phosphate anhydrous (DCPA), dicalcium phosphate dihydrate (DCPD), octacalcium phosphate (OCP), calcium pyrophosphate (CPP), collagen, gelatin, hyaluronic acid, chitin, and poly(ethylene glycol).

10(currently amended). A multi-layered porous carrier, which comprises:
a hollow cavity for receiving tissue blocks, wherein said hollow cavity is surrounded by a wall of porous substrate; and
a porous structure, which is located under said hollow cavity and provided ~~provides~~ for cell attachment.

11(currently amended). The multi-layer ~~multi-layered~~ porous carrier according to claim 10, wherein the diameter of said tissue blocks ranges from 500 to 1000 μ m.

12(original). The multi-layer porous carrier according to claim 10, wherein the pore diameter of said multi-layer porous carrier ranges from 50 to 500 μ m.

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13(currently amended). The multi-layer porous carrier according to claim 10, wherein said multi-layer porous carrier is ~~preferably~~ made of a bioabsorbable polymer material.

14(currently amended). The multi-layer porous carrier according to claim 13, wherein said bioabsorbable polymer materials ~~can be~~ are selected from the group consisting of polyglycolic acid (PGA), polylactic acid (PLA), poly (lactic-co-glycolic) acid (PLGA), polyanhydride, polycaprolactone (PCL), polydioxanone and polyorthoester.

15(currently amended). The multi-layer porous carrier according to claim ~~13~~10, wherein said ~~bioabsorbable polymer materials can be composite materials that combine said absorbable polymer material and other materials~~ multi-layer porous carrier is made of a composite material including a bioabsorbable polymer material.

16(currently amended). The multi-layer porous carrier according to claim 15, wherein said ~~other materials can be~~ composite material including other materials selected from the group consisting of: hydroxyapatite (HAP), tricalcium phosphate (TCP), tetracalcium phosphate (TTCP), dicalcium phosphate anhydrous (DCPA), dicalcium phosphate dihydrate (DCPD), octacalcium phosphate (OCP), calcium pyrophosphate (CPP); collagen, gelatin, hyaluronic acid, chitin, and poly(ethylene glycol).

17(currently amended). A multi-layer implant fabricated by using the method of claim 1, comprising steps of:

providing a porous multi-layered carrier having a hollow cavity;
placing tissue blocks within said hollow cavity of said carrier;
seeding cells into said carrier; and

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incubating said tissue blocks and cells within said carrier in a culture medium.

18(original) The multi-layer implant according to claim 17, wherein said implant is bone implant.

19(currently amended). The method according to claim 17, wherein said cell is ~~any~~ a preparation of living tissue; including primary tissue explants and preparations thereof, an isolated cell; and a cell line.